REMARKS

Claims 1-24 are pending. Claims 6-13, 15-22, and 24 stand rejected under 35 U.S.C. § 112, ¶ 1 as failing to comply with the enablement requirement. Claim 19 stands rejected under 35 U.S.C. § 112, ¶ 2 as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Claims 1-5, 14-16, and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,363,378 to Conklin et al. in view of U.S. Patent No. 5,390,281 to Luciw et al. Claims 6-11, 13, 17-22, and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,390,281 to Luciw et al. in view of U.S. Patent No. 6,122,628 to Castelli et al. Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,390,281 to Luciw et al. in view of U.S. Patent No. 6,122,628 to Castelli et al. and U.S. Patent No. 5,539,841 to Huttenlocher et al.

Reconsideration is requested. No new matter is added. The rejections are traversed. Claims 1, 6, 15, 17, 19-20, and 22-24 are amended. Claims 25-26 are added. Claims 1-26 remain in the case for consideration.

The Examiner is requested to initial and return copies of the IDSes submitted on April 10, 2001, March 6, 2002, November 15, 2004, and June 22, 2004.

REJECTIONS UNDER 35 U.S.C. § 112

Claims 6-13, 15-22, and 24 stand rejected under 35 U.S.C. § 112, ¶ 1 as failing to comply with the enablement requirement. The Examiner asserts that the claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The Examiner asserts that the Applicant does not describe how to construct an impact summary using selected claims.

The Applicant believes that the claims are, in fact, enabled. On page 3, lines 13-22 of this application, the specification incorporates by reference the Construction application and the Semantic Abstracts application. And as shown in FIG. 5 of this application and described on page 8, lines 5-11, both the template and the impact summary include sets of state vectors: in other words, they are types of semantic abstracts. Page 3, lines 27-28 of the Semantic Abstracts application describes a semantic abstract as a set of state vectors, the construction of which is described by the Construction application. The Examiner is referred to page 8, line 1 through page 17, line 21 of the Construction application for more information on the construction of state vectors, although all of the Construction application is pertinent. Copies

of the Construction application and the Semantic Abstracts application are attached for the Examiner's reference.

Nevertheless, in the interest of clarity, the Applicant has amended claims 6, 15, 17, and 24 to make explicit what had been implicit in the claims. The Applicant believes that the claims are not fully enabled, and are therefore allowable under 35 U.S.C. § 112, ¶ 1.

Claim 19 has been amended to address the antecedent basis rejection. Claim 19 should now be allowable under 35 U.S.C. § 112, ¶ 2.

REJECTIONS UNDER 35 U.S.C. § 103(a)

Rejection over Conklin in view of Luciw

The invention as recited in claim 1 is directed toward a computer-implemented method for building a template specifying an emotional response to a content stream, the method comprising: selecting a dictionary, the dictionary including a plurality of concepts to form a directed set, wherein one concept is a maximal element; establishing a directed link between at least a first concept and a second concept in the directed set, the directed link defining an "is a" relationship between the first concept and the second concept; establishing intentional stance basis chains in the directed set from the maximal element to each concept along the directed links, where for each pair of concepts in each chain, one of the pair of concepts is a lineal ancestor of the other of the pair of concepts; selecting a subset of intentional stance basis chains to form a basis; selecting at least one concept in the dictionary; creating a state vector in a topological vector space for each selected concept, wherein each state vector includes as at least one measure of how concretely the concept is represented in each chain in the basis; assembling the state vectors into a template; and associating an action with the template. Claim 23 is a Beauregard claim similar to claim 1.

The invention as recited in claim 14 is directed toward an apparatus for building a template specifying an emotional response to a content stream, the apparatus comprising: a computer; a directed set stored in the computer including a plurality of concepts, one concept identified as a maximal element, and a plurality of chains stored extending from the maximal element to each concept; an intentional stance basis including a subset of the plurality of chains; for selected concepts in the directed set, a state vector in a topological vector space, wherein each state vector includes at least one measure of how concretely the concept is represented in each chain in the intentional stance basis; a template including the state vectors; and an action associated with the template.

In contrast, Conklin teaches an information retrieval system. Nodes, representing terminological concepts, are arranged into trees. A query is analyzed to determine query feedback terms, and corresponding terminological concepts are selected as query feedback nodes. Focal nodes are selected based on the topics, and a conceptual proximity is measured between the focal nodes and query feedback nodes. The query feedback nodes are then ranked based on conceptual proximity to the focal nodes.

There are several apparent differences between the invention as recited in 1, 14, and 23, and Conklin. First is that the claimed invention uses a dictionary organized as a directed set. As explained on page 4, line 30 to page 5, line 3 of the specification, a directed set is a different concept than a tree. Among other (mathematically equivalent) definitions, a tree is a set of nodes connected by edges, the tree having no self-loops and such that between any two nodes in the tree there is *exactly one* path between the two nodes. (See, e.g., Shimon Even, GRAPH ALGORITHMS 22 (1979).) A directed set has no such limitation. Rather, a directed set is a set of nodes connected by edges, where there can be any number of distinct paths between the maximal element and any other element in the directed set. Indeed, as shown in the FIG. 2 of the instant application, there are two different paths between "set" and "relation." One path goes through "product," the other path goes through "subset." Since a tree cannot have multiple paths between a pair of nodes, the trees of Conklin do not anticipate the directed set of the instant invention.

Although Conklin does not describe his trees as directed trees, even if Conklin's trees were considered to be directed trees, they would not teach the concept of a directed set. One definition of a directed tree is a set of nodes connected by edges, where the set has a root from which there is a *unique* directed path to every other node. (See, e.g., Shimon Even, GRAPH ALGORITHMS 30 (1979).) Since this definition still limits the directed tree to having a unique path between the root and every other node, a directed tree does not anticipate the directed set of the instant invention either.

A second difference is that Conklin supports the concept of multiple trees. This is shown in both figures 3 and 6 of Conklin, and explained at column 7, lines 39-50 (among other places). Each tree is an "independent ontology." But a consequence of having separate trees is that there can be no individual maximal element, as claimed in the instant invention. At best, each tree can have a maximal element. Without anything tying the different trees together, there is no single maximal element that embraces every concept in every tree.

By using separate trees for different ontologies, Conklin teaches a system wherein some elements cannot be compared. For example, referring to FIG. 6 of Conklin, there is no

way to compare Western Europe with Tourism, as they are in different ontologies. This would be akin to asking a person on the street to generally compare the concept "apple" with the concept "Thursday": there is no common reference point by which the concepts can be compared. In contrast, in the directed set of the instant invention, every pair of concepts has at least one common ancestor. At worst, every pair of elements is related through the maximal element. This makes it possible to compare disparate concepts such as "iguana" and "man."

Thus, it should be clear that Conklin does not teach state vectors as used in the claims. To begin with, Conklin does not teach chains as described. The chains extend from the maximal element to a concept. But Conklin lacks the feature of a maximal element. Further, Conklin only describes categorizations; the mere fact that there is a (partial) hierarchy among the nodes of Conklin does not mean that Conklin teaches chains. And because the vectors in the claims measure how closely a concept is represented in each basis chain (and Conklin does not teach or suggest chains as described), Conklin cannot teach or suggest state vectors as used in the claims.

In addition, the Examiner acknowledges that Conklin does not teach assembling the state vectors into a template or associating an action with the template. The Examiner refers to Luciw for these features. Luciw teaches a means of generating information based on a familiar series of computer events. It observes and interprets user and system behavior and then guesses what should be done based on that observation. However, instead of using a directed set to generate topological state vectors, Luciw uses a frame-based approach and look-up tables.

Because Luciw does not use templates with state vectors, it cannot be said to teach the assembling of state vectors into a template. The Examiner argues that Luciw teaches "assembling information" into the template, and that this makes obvious assembling state vectors into a template. But for this reasoning to have any possible justification, the concept of state vectors must be taught in one of the cited references. As argued above, Conklin fails to teach or suggest state vectors as claimed; thus, Luciw would have to teach or suggest state vectors. But Luciw's use of his template, as shown in FIG. 4a, uses the template as a form. Forms are not vectors, and Luciw makes no suggestion that the forms can be represented as vectors. In other words, Luciw does nothing more than use a word ("template") in common with this application; even if the general idea behind the word is quasi-similar, the actual use is quite distinct. Thus, Luciw's "template" does not include state vectors, and Luciw does not teach or suggest state vectors anywhere.

As neither Conklin nor Luciw teach or suggest state vectors as claimed, the combination of Conklin and Luciw fails to make obvious claims 1-5, 14-16, and 23. Therefore, claims 1-5, 14-16, and 23 are patentable under 35 U.S.C. § 103(a) over Conklin in view of Luciw, and therefore claims 1-5, 14-16, and 23 are allowable.

Rejection over Luciw in view of Castelli

The invention as recited in claim 6 is directed to a computer-implemented method for comparing a template with a content stream to determine whether the content stream provokes an emotion response, the method comprising: selecting a dictionary, the dictionary including a plurality of concepts to form a directed set, wherein one concept is a maximal element; establishing a directed link between at least a first concept and a second concept in the directed set, the directed link defining an "is a" relationship between the first concept and the second concept; establishing intentional stance basis chains in the directed set from the maximal element to each concept along the directed links, where for each pair of concepts in each intentional stance basis chain, one of the pair of concepts is a lineal ancestor of the other of the pair of concepts; selecting a subset of intentional stance basis chains to form a basis; selecting a plurality of concepts in the dictionary; creating a state vector in a topological vector space for each selected concept, wherein each state vector includes a measure of how concretely the selected concept is represented in each intentional stance basis chain in the basis; assembling the state vectors into a template; associating an action with the template; constructing an impact summary for the content stream, the impact summary including a plurality of state vectors; and comparing the impact summary with the template. Claim 24 is a Beauregard claim similar to claim 6.

The invention as recited in claim 17 is directed toward an apparatus for comparing a template with a content stream to determine whether the content stream provokes an emotion response, the apparatus comprising: a computer having access to the content stream; a template in a topological vector space stored in the computer, the template including a plurality of state vectors in a topological vector space, an associated action, and a threshold distance; means for capturing an impact summary for the content stream, the impact summary including a second plurality of state vectors in the topological vector space; and means for comparing the impact summary with the template.

As argued above, Luciw does not teach the creation of a template comprised of state vectors. Therefore, for the rejection of claims 6-13, 17-22, and 24 to be proper (the Examiner

has added Huttenlocher to the rejection of claim 12, but the rejection is otherwise the same), Castelli needs to teach this element.

Castelli is directed toward a system for multi-dimensional data clustering and data reduction. Noting that "multidimensional indexing is fundamental to spatial databases" (column 1, lines 28-29), Castelli proposes a way to reduce the number of dimensions needed to represent data clusters. Castelli teaches using this reduced dimensionality clustering to improve database query performance.

To begin with, the method taught by Castelli requires either the loss of data, or additional space to store the data. For example, as shown Fig. 4 of Castelli, reducing the data from three dimensions to two results in point 404 (the projection of point 401 onto two dimensions) appearing to be closer to point 405 (the projection of point 402) than point 406 (the projection of point 403). But in three dimensions, point 403 is closer to point 402 than point 401. Thus, there is data loss. Castelli even acknowledges that there is data loss, in that "the set of corresponding eigenvalues account for at least a fixed percentage of the total variance, where for instance the fixed percentage can be taken to be equal to 95%" (column 11, lines 50-53). In other words, the reduced dimension data is known to be less accurate than the original data.

Castelli addresses this data loss by defining the clusters essentially in the higher-order space first, then projecting the clusters into the lower-order space. But even so, the data stored in the unprojected dimensions is lost. The only way to avoid this loss is to define the clusters along many different projections, as shown in Fig. 2. But then three different clusters have to be stored, whereas without data reduction, only 1 cluster is needed. This suggests that Castelli's data reduction approach is not functional.

Moving to addressing the rejection, the vectors taught by Castelli are distinguishable from the vectors in the claims. As clearly described (see, for example, claims 6 and 24), the state vectors are constructed using chains. Castelli has no analog to the chains of the claims. Clearly, then Castelli cannot teach state vectors as constructed.

But even if Castelli taught state vectors as claimed, Castelli still fails to teach comparing impact summaries and templates. As should now be clear, both impact summaries and templates can include multiple vectors. That means that comparing them requires, in some manner, to compare sets of vectors. The only "measure" that Castelli teaches is Euclidean distance, as described in equation 7 in column 9. (All the other distance equations are variants of this.) But Euclidean distance can only measure a distance between two vectors: it cannot measure a distance between two sets of vectors.

It is true that at column 15, lines 25-28, Castelli discusses the distance between a search template and cluster boundaries. But the distance Castelli is measuring here is nothing more than the minimum distance between the search template and the boundary of a cluster. The search template is still a single vector (as shown in Fig. 5: template 501 is a single vector), so Castelli is still not comparing two sets of vectors. Accordingly, Castelli fails to teach or suggest either state vectors or comparing impact summaries and templates (both of which include state vectors). Accordingly, claims 6-13, 17-22, and 24-26 are patentable under 35 U.S.C. § 103(a) over Luciw in view of Castelli (and possibly Huttenlocher), and therefore claims 6-13, 17-22, and 24-26 are allowable.

For the foregoing reasons, reconsideration and allowance of claims 1-26 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,
MARGER JOHNSON & McCOLLOM, P.C.

Ariel L. Rogson

Ariel S. Rogson
Reg. No. 43,054

MARGER JOHNSON & McCOLLOM, P.C.
1030 SW Morrison Street
Portland, OR 97205
503-222-3613
Customer No. 45842